AMENDMENTS TO THE CLAIMS

Claims 1-17 (Withdrawn)

18. (Currently Amended) An apparatus for dispensing flux on a substrate having a plurality of conductive terminals thereon, the apparatus comprising:

a data processing device ~~adapted for~~ configured to control~~ling~~ valve pressure, flux viscosity, and flux spray pattern based on a configuration of the substrate and an arrangement pattern of conductive terminals thereon; and

a flux dispense nozzle configured for spraying flux on the conductive terminals, wherein the data processing device controls the flux viscosity in a range between about 10 centipoises and about 150 centipoises and controls the valve pressure for spraying the flux in a range between about 1.5 psi and about 30 psi.

Claims 19-21 (Cancelled)

22. (Previously Amended) The apparatus of claim 18, wherein the data processing device controls movement of the flux dispense nozzle in at least two dimensions relative to the substrate and decides a plurality of subsets based on the configuration of the substrate and the arrangement pattern of conductive terminals thereon, each subset comprising a plurality of conductive terminals closely located to each other.

23. (Original) The apparatus of claim 22, the data processing device controls the apparatus to selectively spray the flux on each subset sequentially.

24. (Original) The apparatus of claim 18, wherein the flux nozzle is a flux needle.

25. (Currently Amended) An ~~The~~ apparatus ~~of claim 24~~ for dispensing flux on a substrate having a plurality of conductive terminals thereon, the apparatus comprising:

a data processing device adapted for controlling valve pressure, flux viscosity, and flux spray pattern based on a configuration of the substrate and an arrangement pattern of conductive terminals thereon; and

a flux dispense needle configured for spraying flux on the conductive terminals, wherein

the data processing device controls the flux viscosity in a range between about 10 centipoises and about 150 centipoises and controls the valve pressure for spraying the flux in a range between about 1.5 psi and about 30 psi, and

the flux needle has a diameter range between about 0.1 mm to about 0.6 mm.

26. (Previously Amended) The apparatus of claim 25, wherein the flux needle has a needle opening having a diameter range between about 5 microns and about 60 microns.

27. (Original) The apparatus of claim 18, wherein the flux contained in the flux fluid chamber is maintained at a fluid pressure range between about 0.5 psi and about 30 psi.

28. (Original) The apparatus of claim 27, wherein a main pressure range of the apparatus for dispensing flux is maintained at a pressure range between about 60 psi and about 100 psi to maintain the valve pressure range and the flux pressure range.

29. (Original) The apparatus of claim 18, wherein the substrate is a printed circuit board and the plurality of conductive terminals are flip-chip pads arranged on the printed circuit board.

30. (Original) The apparatus of claim 18, wherein the substrate is a flip-chip type electrical component and the plurality of conductive terminals are flip-chip bumps arranged on the flip-chip type electrical component.